PROJECT NUMBER: 4016
PROJECT TITLE : Paper Technology
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I. AMBROSIA (B. Geiszler and S. Tafur)

A. Objective: To develop cigarette wrappers for evaluation on low smoke Ambrosia models.

B. Results: Cigarettes were made with three Kimberly-Clark papers having initial basis weights of 45 g/m^2 and different permeabilities that had been sized with monopotassium phosphate. Sidestream reduction was measured on these cigarettes. Models made with paper at 2.3 Coresta base porosity showed 63% sidestream reduction compared to Marlboro Lights 100; models with 3.7 Coresta base paper gave 58% sidestream reduction; and models with 4.8 Coresta base paper gave 56% sidestream reduction.

The sizing of CR-2950 (an α-hexylcinnamaldehyde release compound) on a 47.5 g/m^2, low porosity calcium carbonate paper previously sized with 13% monobasic potassium phosphate was completed. Some of the cigarettes were placed in the jungle and desert rooms for four days and then submitted for HPLC analyses to determine the stability of the release compound on paper. Control cigarettes were kept in a conditioned lab (75°F, 60% RH).

C. Plans: Additional handmade cigarettes, having papers sized with CR-2950, will be analyzed for various smoke components and evaluated for subjectives.

II. MAGNESIUM CARBONATE PAPERS (G. Bokelman, S. Tafur, B. Goodman, and B. Floyd)

A. Objective: To develop a magnesium carbonate (magnesite) paper for a low sidestream product.

B. Results: Cigarettes in 24.0mm circumference configuration were made in the Semiworks with binary and ternary magnesite papers coated with different levels of potassium succinate. Some of these same papers were also used in making 23.0mm circumference models. The binary paper coated with 7% potassium succinate on 24.0mm circumference cigarettes gave 57% visibility reduction. The ternary paper with 6% potassium succinate on 23.0mm circumference cigarettes produced tar and puff counts equal to the control of the same construction made with conventional paper. This ternary paper model gave 70% sidestream reduction, compared to Marlboro Lights 100.

Cigarette models made with magnesite papers were evaluated for their degree of ash flaking. The following results were obtained: (1) ternary papers tended to have more